

REMARKS

Initially, Applicants would like to express appreciation to the Examiner for the detailed Final Official Action provided.

Upon entry of the above amendment, claims 9-13 will have been amended. Accordingly, claims 1-14 and 16-20 are currently pending. Claims 1-8 and 17-20 stand withdrawn from consideration by the Examiner. Applicants respectfully request reconsideration of the outstanding rejection and allowance of claims 9-14 and 16 in the present application. Such action is respectfully requested and is now believed to be appropriate and proper.

Claims 9-14 and 16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by BOLDUAN (U.S. Patent Publication No. 2002/0178764).

Although Applicants do not necessarily agree with the Examiner's rejection of the claims on this ground, nevertheless, Applicants have amended independent claim 9 to clearly obviate the above noted ground of rejection in order to expedite prosecution of the present application. In this regard, Applicants note that the BOLDUAN publication fails to show each and every element recited in the amended claims. In particular, claim 9, as amended, sets forth a method of controlling wash water circulation including, inter alia, "supplying wash water into a tub; circulating wash water supplied into a tub along a circulation channel by operating a pump when wash water is supplied up to a prescribed wash water level; and measuring the discharging pressure of the pump while the wash water is circulated; and further supplying water into the tub while stopping the operation of the pump for a prescribed period of time if the discharging pressure of the pump is less than a prescribed pressure".

This amendment is fully supported by the specification, including the claims and drawings, and no prohibited new matter has been added.

Applicants' claimed invention provides a method of controlling wash water circulation for a washing machine.

In particular, the present invention includes circulating wash water in a tub by operating a pump when wash water is supplied up to a prescribed wash water level, if the discharging pressure of the pump, as measured by a water level detecting sensor, is higher than a prescribed pressure (S5); supplying water into the tub (S6) and stopping the operation the pump for a prescribed period of time (S7 and S8); circulating wash water again by resuming the operation of the pump (S9); and if the discharging pressure of the pump, as measured by the water level detecting sensor, is lower than the prescribed pressure (S10), repeatedly performing operations (S7), (S8), and (S9).

According to the present invention, if it is determined that wash water in the tub is insufficient due to absorption by laundry during a washing/rinsing operation even though a sufficient amount of wash water has already been supplied into the tub, wash water may be supplied again into the tub, and the operation of the pump may be terminated for a prescribed amount of time. In this manner, the pump is driven only when a sufficient amount of wash water is contained in the tub. Therefore, the operating reliability of the pump for circulating wash water in the tub is improved, and the power consumption of the washing machine is reduced by temporarily terminating the operation of the pump upon detection of a shortage of wash water.

The BOLDUAN patent publication discloses a method of controlling a washing machine. In particular, the BOLDUAN method is characterized by circulating wash water with the washing liquid circulating system 16; measuring the dynamic pressure of wash water with the sensor device 12; controlling the opening and closing of a safety valve 14 according to the dynamic pressure of wash water, as measured by the sensor device 12; terminating the circulation of wash water by intermittently terminating the operation of the circulating pump 10 for a short time; measuring the static pressure of wash water with the sensor device 12; and if the static pressure of wash water, as measured by the sensor device 12, exceeds a predefined level, determining that the level of wash water is higher than a predefined safety level, and discharging wash water from a tub and thus preventing an overflow of wash water by transmitting a signal to a control device 8 so as to close the safety valve 14 and to drive an emptying pump 15.

A comparison of the present invention and the BOLDUAN method reveals that *the present invention is characterized by temporarily terminating the operation of a circulation pump upon detection of a shortage of wash water by a water level detection sensor; whereas the invention of BOLDUAN is characterized by precisely measuring the pressure of wash water and intermittently terminating the operation of a circulation pump in order to prevent an overflow of wash water.* Clearly, then, the BOULDUAN method is in contradistinction to the method of the present invention.

The BOLDUAN patent publication does not disclose the process of stopping the pump and the process of re-supplying wash water when the water level is sensed to be lower than the predetermined water level, in order to improve the washing efficiency and the operational reliability of the pump, both of which the present invention provides.

Accordingly, the BOLDUAN patent does not disclose a method including, inter alia, “supplying wash water into a tub; circulating wash water supplied into a tub along a circulation channel by operating a pump when wash water is supplied up to a prescribed wash water level; and measuring the discharging pressure of the pump while the wash water is circulated; and further supplying water into the tub while stopping the operation of the pump for a prescribed period of time if the discharging pressure of the pump is less than a prescribed pressure”, as set forth in amended claim 9.

Since the reference fails to show each and every element of the claimed device, the rejection of claim 9 under 35 U.S.C. § 102(b) over BOLDUAN is improper and withdrawal thereof is respectfully requested.

Applicants submit that dependent claims 10-14 and 16, which are at least patentable due to their dependency from claim 9 for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record based on the additionally recited features. In particular, Applicants submit that none of the cited prior art teaches or suggests: a method of controlling wash water circulation for washing machines including “further supplying water into the tub while operating the pump”, as set forth amended claim 10; a method of controlling wash water circulation for washing machines including “measuring again the discharging pressure of the pump”, as set forth in amended claim 11; a method of controlling wash water circulation for washing machines including “further supplying wash water if the discharging pressure of the pump measured again is less than the prescribed pressure”, as set forth in amended claim 12; a method of controlling wash water circulation for washing machines including “stopping supply of water if the discharging pressure of

the pump measured again is not less than the prescribed pressure”, as set forth in amended claim 13; a method of controlling wash water circulation for washing machines including “wherein the pump is operated again after the prescribed period of time is passed”, as set forth in claim 14; and a method of controlling wash water circulation for washing machines including “wherein wash water is further supplied if the discharging pressure of the pump measured again is less than the prescribed pressure, and the pump is stopped again for the prescribed period of time”, as set forth in claim 16. Accordingly, claims 10-14 and 16 are each separately patentable for these additional reasons.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of claims 9-14 and 16.

SUMMARY AND CONCLUSION

In view of the foregoing, it is submitted that the proposed amendment is proper for entry since it merely clarifies the language describing the steps of supplying water, stopping the supply of water, and measuring, which are issues about which Applicants have already presented arguments, and it is also submitted that none of the references of record, considered alone or in any proper combination thereof, anticipate or render obvious Applicants’ invention as recited in claims 9-14 and 16. The applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Accordingly, consideration of the present amendment, reconsideration of the outstanding Final Official Action, and allowance of the present amendment and all of the claims therein are respectfully requested and now believed to be appropriate.

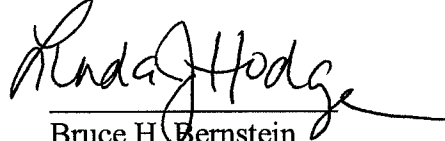
Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims which have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions, the Examiner is invited to contact the undersigned at the below listed number.

Respectfully Submitted,
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